

IN THE CLAIMS:

1 1-19. (CANCELLED)

1 20. (ORIGINAL) A computer readable medium containing executable program instruc-
2 tions for use by an intermediate network device having a plurality of ports for receiving
3 and forwarding network messages, the executable program instructions comprising pro-
4 gram instructions for:

5 configuring one or more ports as access ports;

6 configuring one or more access ports as rapid forwarding ports;

7 identifying all ports that have been configured as access ports with rapid forward-
8 ing; and

9 upon initialization of the device, placing each identified access port with rapid
10 forwarding directly to a forwarding spanning tree port state, without transitioning such
11 identified ports between any intermediary spanning tree port states, so that network mes-
12 sages may be received and forwarded by such identified ports immediately.

1 21. (ORIGINAL) The computer readable medium of claim 20 comprising further pro-
2 gram instructions for:

3 monitoring each of the one or more access ports configured with rapid forwarding
4 for receipt of a configuration bridge protocol data unit (BPDU) message; and

5 in response to receiving a BPDU message at one of the access ports configured
6 with rapid forwarding, placing the respective access port in a blocking spanning tree port
7 state.

1 22. (ORIGINAL) The computer readable medium of claim 21 wherein
2 the intermediate network device has a memory, and
3 the configuration of ports as access ports with rapid forwarding is stored at the
4 memory.

1 23. (ORIGINAL) The computer readable medium of claim 21 comprising further pro-
2 gram instructions for placing one or more other ports in a listening spanning tree port
3 state, upon initialization of the device.

1 24. (ORIGINAL) The computer readable medium of claim 20 wherein each access port
2 configured with rapid forwarding is placed in the forwarding state prior to a link-up sig-
3 nal being received at the respective port.

1 25. (ORIGINAL) The computer readable medium of claim 20 comprising further pro-
2 gram instructions for generating and issuing one or more configuration bridge protocol
3 data unit (BPDU) messages from each access port configured as rapid forwarding.

1 26. (ORIGINAL) The computer readable medium of claim 20 wherein an end station is
2 not coupled to a selected one of the access ports configured with rapid forwarding until
3 after the respective access port is placed in the forwarding spanning tree port state.

1 27. (ORIGINAL) The computer readable medium of claim 26 comprising further pro-
2 gram instructions for generating and issuing one or more configuration bridge protocol
3 data unit (BPDU) messages from each access port configured as rapid forwarding.

1 28. (NEW) A method comprising:
2 configuring one or more ports of a network device as access ports;
3 configuring one or more access ports to have a rapid forwarding designation;
4 identifying the ports that have been configured as access ports with rapid forward-
5 ing designation; and
6 upon initialization of the network device, placing each identified access port with
7 rapid forwarding designation directly into a forwarding spanning tree port state, without
8 transitioning such identified ports between any intermediary spanning tree port states, to
9 enable network messages to be received and forwarded by such identified ports immedi-
10 ately.

1 29. (NEW) The method of claim 28 further comprising:
2 monitoring each of the one or more access ports configured with rapid forwarding
3 port designation for receipt of a configuration bridge protocol data unit (BPDU) message;
4 and
5 in response to receiving a BPDU message at one of the access ports configured
6 with rapid forwarding designation, placing the respective access port in a blocking span-
7 ning tree port state.

1 30. (NEW) The method of claim 28, wherein the step of configuring one or more access
2 ports further comprises:
3 selecting with a management protocol, by a network administrator, the one or
4 more access ports to have rapid forwarding designation.

1 31. (NEW) The method of claim 28 further comprising:
2 transitioning one or more other access ports that do not have rapid forwarding

3 designation to a listening spanning tree port state, upon initialization of the device.

1 32. (NEW) The method of claim 28, wherein each access port configured with rapid for-
2 warding designation is placed in the forwarding state prior to a link-up signal being re-
3 ceived at the respective port.

1 33. (NEW) The method of claim 28 further comprising:
2 issuing one or more configuration bridge protocol data unit (BPDU) messages
3 from each access port configured to have rapid forwarding designation.

1 34. (NEW) The method of claim 28, wherein an end station is not coupled to a selected
2 one of the access ports configured with rapid forwarding designation until after the re-
3 spective access port is placed in the forwarding spanning tree port state.

1 34. (NEW) An apparatus comprising:
2 a port configuration entity operable to maintain configuration data that indicates
3 one or more ports of the apparatus are access ports, and that one or more of the access
4 ports have a rapid forwarding designation;
5 an enhanced spanning tree entity operable to query the port configuration entity
6 and to identify the ports that have been configured as access ports with rapid forwarding
7 designation; and
8 a state machine engine operable to place each identified access port with rapid
9 forwarding designation directly into a forwarding spanning tree port state, without transi-
10 tion of such identified ports between any intermediary spanning tree port states, to enable
11 network messages to be received and forwarded by such identified ports immediately.

1 35. (NEW) The apparatus of claim 34 wherein the enhanced spanning tree entity is fur-
2 ther operable to monitor each of the one or more access ports configured with rapid for-
3 warding port designation for receipt of a configuration bridge protocol data unit (BPDU)
4 message, and in response to receiving a BPDU message at one of the access ports config-
5 ured with rapid forwarding designation, to place the respective access port in a blocking
6 spanning tree port state.

1 36. (NEW) The apparatus of claim 34 further comprising:
2 a management protocol operable to permit a network administrator to select the
3 one or more access ports to have rapid forwarding designation.

1 37. (NEW) The apparatus of claim 34 wherein the state machine engine is further oper-
2 able to transition one or more other access ports that do not have rapid forwarding desig-
3 nation to a listening spanning tree port state, upon initialization of the device.

1 38. (NEW) The apparatus of claim 34 wherein the state machine engine is operable to
2 place each identified access port with rapid forwarding designation into the forwarding
3 spanning tree port state prior to a link-up signal being received at the respective port.

1 39. (NEW) The apparatus of claim 34 wherein the state machine engine is operable to
2 place each identified access port with rapid forwarding designation into the forwarding
3 spanning tree port state while the respective port is uncoupled from any end station.

1 40. (NEW) An apparatus comprising:
2 means for configuring one or more ports of a network device as access ports;

3 means for configuring one or more access ports to have a rapid forwarding design-
4 nation;

5 means for identifying the ports that have been configured as access ports with
6 rapid forwarding designation; and

7 means for placing each identified access port with rapid forwarding designation
8 directly into a forwarding spanning tree port state upon initialization of the device, with-
9 out transitioning such identified ports between any intermediary spanning tree port states,
10 to enable network messages to be received and forwarded by such identified ports imme-
11 diately.